

"PATENT"

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Paul J. Berlowitz, et.al

U. S. Serial No. 08/971,254

This application is a Continuation Prosecution
Application of Serial Number 08/971,254 filed
November 17, 1997

SYNTHETIC DIESEL FUEL AND PROCESS FOR
ITS PRODUCTION

Commissioner for Patents
Washington, DC 20231

Sir:

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) Before the Examiner
) Margaret B. Medley
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) Group Art Unit
) 1714
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TC 1714

REMARKS

This paper no. 18 is in response to the Office Action, paper no. 17, dated March 19, 2001. Applicants petition for a 3 month extension of time so that this response would be due September 19, 2001. Authority is given to charge the fee to account no. 05-1330.

35 USC §112

The Examiner has rejected claims 15, 18, and 19 under 35 USC §112, first paragraph. Claim 15 has been amended to better fit the specification's description

I hereby certify that I have a reasonable basis for believing that this correspondence will be deposited with the United States Postal Service as first class mail in an envelope addressed to Assistant Commissioner for Patents, Washington, D.C. 20231, on **September 12, 2001**.

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Signature

Date of signature



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on page 7, lines 9-17. In view of the context that that present invention can be used as a diesel fuel per se (see page 7, line 10), page 7, line 13 describes a lower limit example of 10%, separately from the term "or more." Claim 18 has been amended to better reflect the specification, page 7, lines 9-13. Claim 19 has been amended to better reflect the specification, page 7, lines 15-17.

The Examiner has rejected claims 10, 17, and 22 under 35 USC §112, second paragraph. Claim 10 has been amended to depend on claim 5 so as to follow the initial chain of dependency after cancellation of claim 6. Claim 17 has been amended to correctly depend on claim 16. Claims 10, 15, 16 17, 18 and 19 have also been amended to improve antecedent basis. Claim 22 has been amended to have a lower range of "about 0.025".

35 USC §103(a)

The Examiner has rejected claims 1-2, 4-5, 8, 10, and 20-30 under 35 USC §103 over Davis, *et al.* (U.S. Patent 5,378,348). Davis discloses a jet fuel containing a 320 to 500 °F fraction and a diesel fuel containing a 500 to 700 °F fraction made by a similar, but different process than the present invention.

Applicants argue that the present invention uses a different process than Davis. This different process does not hydrotreat or at least does not hydrotreat all of the lighter 700- °F fraction. In the absence of hydrotreating of this fraction, the small amount of oxygenates, primarily linear alcohols, in this fraction are preserved, while oxygenates in the heavier fraction are eliminated during the

product of the present invention that has the unexpected result of high lubricity and very high cetane number. See page 1, lines 24-30 of the Applicants' specification.

This different process produces the product of the present invention that also has a much larger cut and also allows a fraction with a much lower boiling point limit. The 320-700 °F cut cited by the Office Action is described by Davis only as an intermediary (see Davis, claim 9) or for use only after fractionation. See Davis, col. 3, lines 64-68. The present invention allows a fraction with the enormous 450 °F range which is over twice Davis' range of 180 °F for Davis' jet fuel 320-500 °F fraction and 200 °F for Davis' diesel 500-700 °F fraction.

Applicants respectfully submit that it would not be obvious to take the fully hydrotreated product of Davis, remove the hydrotreater, combine the hydroisomerization units into one unit, add hot and cold separators, and rearrange the flow patterns of the intermediates to come up with the present invention.


Obviousness-type Double Patenting

The Examiner has provisionally rejected claims 1-2, 4, and 15-30 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over co-pending Application No. 08/562,454. Accordingly, terminal disclaimers of claims 1-2, 4, and 15-30 for co-pending Application No. 08/562,454 is attached in compliance with 37 CFR 1.321(c) to overcome the rejections. All cited references are commonly owned.

unpatentable over co-pending Application No. 09/138,130 (now U.S. Patent 6,180,842). Accordingly, terminal disclaimers of claims 1-2, 4, and 15-30 for U.S. Patent 6,180,842 (previously co-pending Application No. 09/138,130) is attached in compliance with 37 CFR 1.321 to overcome the rejections. All cited references are commonly owned.

Reconsideration of the application as amended is respectfully requested.

Respectfully submitted,



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☒ Pursuant to 37 CFR 1.34(a)

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08/971,254

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U.S. Serial No. 08/971,254

AMENDED CLAIM WITH MARKINGS

Please amend claims 10, 15, 16-19, and 22 as follows:

10. The process of claim 5 wherein the fraction [(b)(i) is characterized by the absence of hydrotreating] containing primary C₁₂-C₂₄ linear alcohols is not hydrotreated.

15. A blended fuel, useful as a diesel fuel, comprising:

(a) a 250-700°F distillate fraction derived from the Fischer-Tropsch process which contains;

at least 95 wt% paraffins with an iso to normal ratio of about 0.3 to 3.0,

≤ 50 ppm (wt) each of sulfur and nitrogen,

less than about 2 wt% unsaturates

about 0.001 to less than 0.3 wt% linear oxygenate, as oxygen on a water free basis.

(b) a petroleum derived hydrocarbon fraction,

wherein the 250-700°F distillate fraction derived from the Fischer-Tropsch [fraction] process comprises [at least] 10% or more of the blended fuel.

16. A blended fuel according to claim 15 wherein said Fischer-Tropsch process is a non-shifting Fischer-Tropsch catalyst process.

17. A blended fuel according to claim [14] 16 wherein said Fischer-Tropsch catalyst comprises cobalt.

18. A blended fuel according to claim 15 wherein said petroleum derived hydrocarbon boils [in the range of about 250-700°F] contains feeds of about the same boiling range as the 250-700°F distillate fraction derived from the Fischer-Tropsch process.

19. A blended fuel according to claim 15 or 18 wherein said petroleum derived hydrocarbon is selected from the group consisting of raw distillates, raw gas oils, hydrogenated catalytic distillates, hydrogenated catalytic gas oils, thermally cracked distillates, [hydrogenated catalytically cracked distillates] and thermally cracked gas oils.

22. A distillate fraction according to claim 2 containing about [0.001] 0.025 to about 0.3 wt% oxygen as determined on a water-free basis.